

### **REMARKS**

In the Action, claims 1-6 are rejected. By this Amendment, claims 1-5 are amended, and new claims 7-16 are added.

The claims are amended to clarify the features of the invention and to further define the composition. Claim 1 is amended to recite that the glycerin fatty acid ester has a fatty acid component with 8-12 carbon atoms. The biodegradable polyester resin of claim 1 is now defined as being a polylactic acid resin or a resin composed primarily of polylactic acid as recited in original claim 3. Claim 3 is amended to be consistent with the amendments to claim 1.

Claims 7 and 8 are added to depend from claim 1 to recite the resin being unfoamed and in the absence of starched derivatives, respectively. Independent claim 9 is directed to the composition comprising a biodegradable polylactic acid resin and an antistatic agent where the antistatic agent comprises a mixture of a glycerin fatty acid ester and an alkyl sulfonate where the glycerin fatty acid has a monoester content of 50 wt/wt% or higher. Claim 10 depends from claim 9 to recite the glycerin fatty acid ester having 8-12 carbon atoms in the fatty acid group. Claims 11 and 12 depend from claim 9 to recite the fatty acid group of the glycerin fatty acid ester having 8 and 12 carbon atoms respectively. Claims 13-16 depend from claim 9 to recite the amounts of the antistatic agent and the ratio of the glycerin fatty acid ester and alkyl sulfonate as in original claims 2, 4 and 5.

These pending claims in this application are claims 1-16, with claims 1 and 9 being independent. The amendments and new claims 9-16 are adequately supported by the specification as originally filed.

In view of these amendments and the following comments, reconsideration and allowance are requested.

#### **Rejection Under 35 U.S.C. § 112**

Claims 1-6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is based on the position that it is unclear whether the composition contains the glycerin fatty acid ester and the alkyl sulfonate. Claim 1 is amended to clarify that the biodegradable polyester resin composition comprises a biodegradable polyester resin, a glycerin fatty acid ester and an alkyl sulfonate. In view of this amendment, the claims are submitted to be in proper form under 35 U.S.C. § 112, second paragraph.

#### **Rejection of Claims 1-6**

Claims 1-6 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,110,578 to Kakizawa et al. Kakizawa et al. is directed to a laminated structure having an expanded material and a biodegradable non-expanded material layer where one of the layers can be a polylactic acid ester resin.

The composition of claim 1 as amended is not disclosed or suggested in Kakizawa et al. In particular, Kakizawa et al. does not disclose a biodegradable polyester composition comprising a polylactic acid polyester resin containing the combination of the claimed glycerin fatty acid ester and an alkyl sulfonate to provide antistatic properties to the polyester resin composition. Kakizawa et al. also fails to disclose the composition having a glycerin fatty acid

ester where the fatty acid component has 8-12 carbon atoms and where the glycerin fatty acid has a monoester content of 50% by weight or higher and where the combination of the glycerin fatty acid ester and the alkyl sulfonate are included in an amount of 0.2 to 5 parts by weight per 100 parts of the polyester resin.

Kakizawa et al. discloses the use of an alkyl sulfonate as an antistatic agent in the resulting product, but does not disclose the combination of the glycerin fatty acid ester and an alkyl sulfonate as in the claimed invention. As disclosed in the first paragraph on page 10 of the specification, Applicants have discovered that the combination of a glycerin fatty acid monoester and an alkyl sulfonate provide a synergistic effect in improving the antistatic properties of the resulting polyester resin. Applicants have also discovered that glycerin fatty acid esters within the claimed range provide unexpected synergistic properties when used in combination with the alkyl sulfonate. Moreover, the combination of the glycerin fatty acid monoester and the alkyl sulfonate have been found to improve the antistatic properties without affecting the transparency of the resulting resin. For example, the data in Table 1 on page 15 of the specification demonstrate the improved antistatic properties and transparency of the resulting polyester resin when a combination of the claimed glycerin fatty acid ester and an alkyl sulfonate are added to the polyester resin composition. As shown in Comparative Example 9 and Comparative Examples 2 and 3, the glycerin fatty acid esters and the alkyl sulfonate when used alone do not provide the satisfactory antistatic properties.

Kakizawa et al. does not disclose or suggest the use of a glycerin fatty acid ester in an amount to provide antistatic properties to the biodegradable polyester resin or use of the glycerin

fatty acid ester in combination with the alkyl sulfonate. Instead, Kakizawa et al. discloses the higher fatty acids such as stearic acid and palmitic acid for use as lubricants. It is known by those skilled in the art that the higher fatty acid esters are used as lubricants. Typically, lubricants are formed from the long chain fatty acids having 14 carbons or more. The glycerin fatty acid esters having a fatty acid component with fewer than 14 carbon atoms are not suitable as lubricants. Thus, Kakizawa et al. does not disclose or suggest the use of the lower glycerin fatty acid esters as now claimed. Kakizawa et al. selects the glycerin fatty acid ester based on the ability to function as a lubricant and not for its antistatic properties. Accordingly, claim 1 is not anticipated by Kakizawa et al.

Claims 2-6 which depend from claim 1 are also allowable as depending from an allowable base claim and for reciting additional features of the invention that are not disclosed or suggested in the art of record. For example, Kakizawa et al. does not disclose a composition where the ratio of the glycerin fatty acid monoester to the alkyl sulfonate is in the range of 50/50 - 90/10 by weight as in claim 2, the polyester resin being a polylactic acid resin as in claim 3, the ratio of the glycerin fatty acid monoester to the alkyl sulfonate in the range of 65/35 - 90/10 by weight as in claim 4, or in the range of 75/25 - 90/10 by weight as in claim 5 in combination with the features of claim 1. Kakizawa et al. also fails to disclose film sheets or molded articles obtained by molding the composition of claim 1 as recited in claim 6. Accordingly, claims 2-6 are allowable over the art of record.

New claims 9-16 are also allowable over the art of record. Independent claim 9 is directed to a biodegradable polyester resin composition comprising a polylactic acid resin and an

antistatic agent where the antistatic agent is included in an amount of 0.2 to 5 parts by weight per 100 parts by weight of the biodegradable resin to provide antistatic properties and maintain the transparency of the resin. Claim 9 further recites the antistatic agent including a glycerin fatty acid ester and an alkyl sulfonate where the glycerin fatty acid ester has a monoester content of 50 wt% or higher. Kakizawa et al. does not disclose an antistatic agent comprising a glycerin fatty acid ester and an alkyl sulfonate for use in a polylactic acid ester resin as claimed. Accordingly, claim 9 is allowable over the art of record.

Kakizawa et al. and the art of record also fails to disclose the polyester resin composition where the antistatic agent includes a glycerin fatty acid ester having a fatty acid group with 8-12 carbons as in claim 10, the fatty acid group having 8 carbon atoms as in claim 11, or the glycerin fatty acid ester being glycerol monolaurate as in claim 12. The art of record further fails to disclose the amount of the antistatic agent of claim 13, or the ratio of the glycerin fatty acid monoester to the alkyl sulfonate as in claims 14-16 in combination with the composition of claim 9.

In view of these amendments and the above comments, claims 1-16 are submitted to be allowable over the art of record. Reconsideration and allowance are requested.

Respectfully submitted,



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